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# A Machines Survey of the Business Departments of 30 High Schools in East-Central Illinois

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*Eastern Illinois University*

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A MACHINES SURVEY  
OF THE BUSINESS DEPARTMENTS  
OF 30 HIGH SCHOOLS IN  
EAST-CENTRAL ILLINOIS

Marion G. McLean

A MACHINES SURVEY OF THE BUSINESS DEPARTMENTS  
OF 30 HIGH SCHOOLS IN  
EAST-CENTRAL ILLINOIS

Marion G. McLean

A Paper Submitted  
In  
Partial Fulfillment  
Of  
The Requirements for the Degree of  
Master of Science in Education  
Eastern Illinois University  
Charleston, Illinois  
December, 1958

*This study has been approved by the following members  
of the faculty of Eastern Illinois University.*

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## CHAPTER I

### The Problem

#### Statement of the Problem

This survey was made to determine the number of machines used in thirty Illinois high schools of various sizes and to determine as far as was possible the maintenance costs for these machines with regard to both typewriters and other types of office machines.

#### Background and Purpose

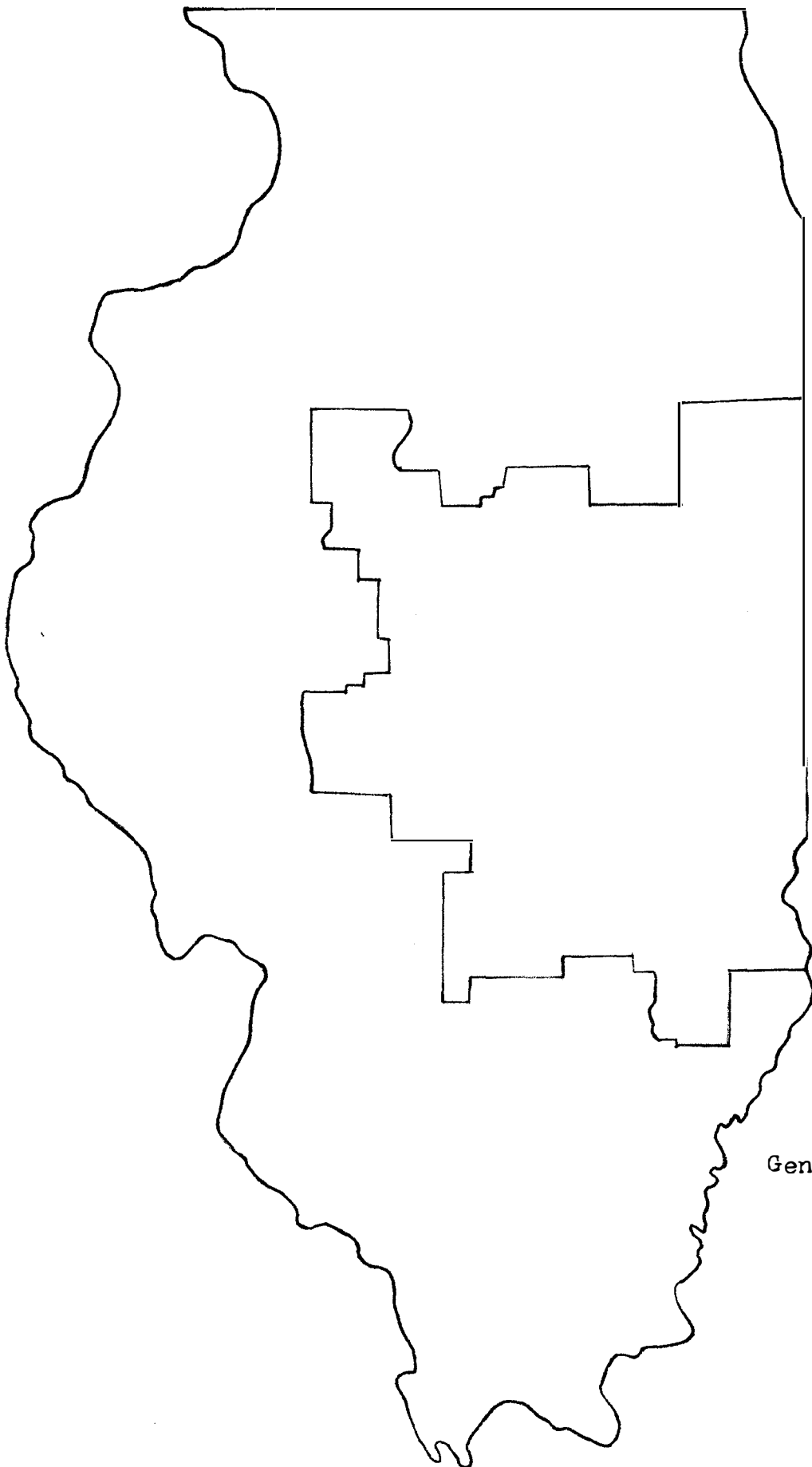
The writer of this paper has had at present no teaching experience other than the student teaching required by Eastern Illinois University. However, she does feel that it would be of value to both teachers and prospective teachers to know just what types of machines can be found in schools of various sizes, and to know also just how expensive these machines are to keep in working order. It is with this idea in mind that this paper is written. The writer sincerely hopes that someone will be able to find within these pages some information that will be useful to him in doing his best to prepare better business workers for the modern world.

#### Limitation of the Problem

The survey sheet was sent to 60 high schools. Of these 20 were schools of less than 300 enrollment,

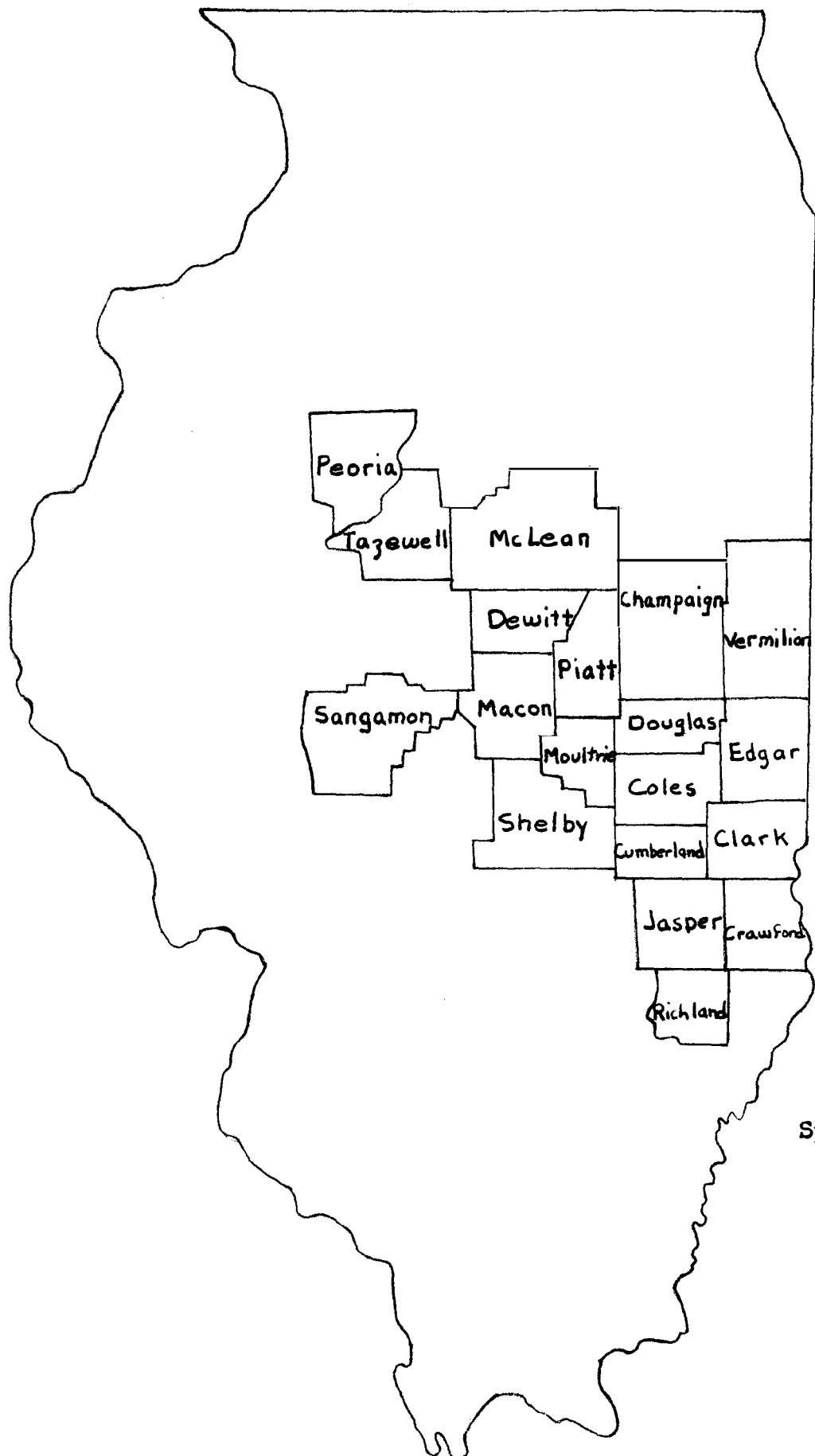
20 were schools of from 300 to 600 enrollment, and 20 were to schools of over 600 enrollment.

These schools were from the following 21 counties:  
Champaign, Christian, Clark, Crawford, Coles, Cumberland,  
Dewitt, Douglas, Edgar, Fayette, Jasper, Logan, Macon,  
McLean, Moultrie, Peoria, Piatt, Sangamon, Shelby,  
Tazewell, and Vermilion. For maps of this area see  
pages 3 and 4.



General Area  
of  
Survey





Specific Area  
of  
Survey

## CHAPTER II

## The Survey

Procedure

The survey blanks and accompanying letter were prepared and sent to the 60 schools selected according to school enrollment. Each blank was accompanied by a self-addressed stamped envelope for convenience in returning the blanks. The enrollment figures for the different sized schools were obtained from the Illinois School Directory for 1957-58.

Twelve of the blanks sent to the smaller high schools, or those with enrollment of less than 300, were returned. Of the medium sized high schools, those with 300-600 enrollment, 15 blanks were returned. Of the large sized high schools, those with enrollments of over 600, 17 blanks were returned. Therefore, there was a return of 80 per cent which is very good since only one school was visited personally. Of the schools which returned the blanks, 17 requested a copy of the results. All those who returned the blanks seemed to be quite interested and answered every question to the best of their ability.

Ten representative schools from each of the three groups were selected for use in the final compilation of figures for this survey.

### Enrollment

Of the smaller schools used, the smallest had an enrollment of 131 and the largest had an enrollment of 263 students. In the business departments of these schools none had fewer than 13 standard typewriters nor more than 27. All the schools had at least one electric typewriter, although one school rented theirs. Seven of these same schools had at least one adding machine and two duplicators in the business department. Two of the schools rented their adding machines when they were needed for a unit of work. One of these two schools owned their duplicating equipment while the other school rented all equipment. One school had no machines other than typewriters in the business department.

The yearly maintenance for standard typewriters varied from \$5 to \$11.80 per machine with the average being about \$7. In most of the schools the electrics were so new that they have either had no repairs or such minor repairs that the cost was negligible. In only two schools was there a definite figure. Of these, one reported a \$17 a year maintenance and the other with 8 electrics reported a yearly maintenance cost of \$50 for all the machines which means an average of \$6.25 per machine.

In most instances the schools traded in the standard typewriters after 4 or 5 years. In one case, however, the school traded in one third of their typewriters each year.

None of the small high schools had as yet established any policy with regard to trading in the electric typewriters. In most cases the electrics were less than 5 years old. In the one case where electrics had been used more than 5 years, the oldest typewriter was 8 years old. In this school none of the electric typewriters had been traded in as yet.

In the small schools the Royal Standard typewriter predominated. Over half of the typewriters used were Royals with Underwoods in second place. There were almost two times as many Royal machines as Underwood machines being used. In one case, too, where the business department had 23 Underwoods the teacher indicated that she would have preferred to have Royal typewriters.

Most of the teachers also indicated that they preferred to have a single make of typewriter for teaching beginning typists. They felt that it was easier to teach the beginners when all were using the same make of typewriter. Another reason given for preferring one make of typewriter was the cost of maintenance. Those teachers who would like more than one make felt that other makes should be available for the advanced students.

These small schools had more I. B. M. electrics than any other make although the Royal electrics were a very close second. One teacher said that the I. B. M. was preferred because it was so sturdy and maintenance costs were so low.

Those schools that had adding machines and calculators for the most part did not have service contracts and had not as yet had any maintenance costs. In only two cases were actual figures reported. In one case the only contract was for one manual calculator with a yearly maintenance cost of \$15. In the other case \$30 was reported for each adding machine, one ten-key and one full-key machine. This school also paid \$35 for maintenance on the mimeograph.

In 8 of the schools there was only one teacher in the business department. The other two schools had two teachers each. In one school the business teacher said that he taught 7 classes in a 9 period day.

Of the medium sized schools the smallest enrollment was 315 and the largest enrollment 586 students. These schools had from 15 to 77 standard typewriters for the use of the students in the business department. These same schools had from 1 to 15 electric typewriters. In these schools the average maintenance was also \$7 per machine. The maintenance varied from \$1 to \$12 per machine. The maintenance on the electric typewriters varied from \$6 to \$15 per machine with an average charge of \$10 per machine.

In the medium sized schools the preference again seemed to be for trading standard typewriters after from

4 to 5 years. The feeling seemed to be that electric typewriters should be kept more than 5 years before they are traded in.

In the business departments of these high schools again over half of the standard typewriters are Royals with the Underwood coming in a very poor second. There are as a matter of fact only 1/5 as many Underwoods as there are Royal standards being used. These teachers felt also that in the beginning typing room there should be only one make of machine. Those who wished to have more than one make of machine felt that the other kinds should be placed in a practice room for the use of the advanced typing students or those in clerical type courses. The feeling of the teachers seemed to be that the makes of machines used in town offices should help determine the makes of typewriters used in the practice or advanced typing room.

As far as the electric typewriters were concerned I.B.M.'s led the field. There were twice as many I.B.M. machines being used as all other makes of electrics combined. There was a second place tie between the Royal and the Remington machines.

In the medium sized schools all but one had at least one adding machine, one manual and one electric

calculator, some form of dictating equipment, and both a mimeograph and a ditto machine. In addition to the above equipment two schools had bookkeeping machines and two schools had bank posting machines. The one exception was a school that had no machines other than typewriters in the business department.

The majority of schools reported that they had no service contract for the machines. There seemed to be a wide variety of charges from \$5 per call per machine to \$35 which was the highest charge paid and this was for a Marchant Calculator. The duplicating equipment cost about \$20 per year mostly for cleaning. Two schools had a charge of \$15 per year for each machine. The two bookkeeping machines cost between \$20 and \$30 per year. One school paid \$20.70 per year on a contract for their machine, and the other school paid \$29.60 for their machine each year also on a contract.

The business departments varied from 2 to 5 teachers. In two of the schools there were teachers who taught subjects other than business subjects. In all other cases the business teachers taught only business subjects. Not one teacher in this sized school had anything to say about the number of classes that they taught during the regular school day.

The large high schools used in this survey had enrollments of from 693 students to 1,963 students. In these schools the fewest number of typewriters was 37 and the largest number of available typewriters was 102.

In these schools also over half of the typewriters were Royals and again the Underwoods came in second. There were moreover more Royal machines being used than all other kinds put together.

As far as maintenance is concerned the charges ranged from \$1.75 to \$10 per machine per year. In the larger school systems the charges were all handled by a central office and no figures were available. These schools seemed to have a preference for turning in the machines every 4 years.

With regard to the electric typewriters all schools had at least one electric and one school had 32 which was only 5 less than the number of standard typewriters for the school. There were more I.B.M's in these schools than any other make, and here again the Royal electric was in second place. In some instances the electric typewriters were new and there had been no maintenance costs as yet. Those schools that had had machines long



enough for maintenance figures reported charges of from \$20 to \$50 maintenance for all the electric typewriters. The highest maintenance paid was \$15 per machine. The average cost was close to \$4 per machine.

Most of these large high schools had at least one of each type of office machine other than typewriters. Each school had adding machines, and calculators. In only one school was there no duplicating equipment available, and in one school there was no dictating equipment. In most cases the business departments had in addition to the above listed machines at least one bookkeeping machine. In some cases there were bank posting machines in the department. There seemed to be a great deal of variety with regard to charges for the machines. The adding machines cost from a low of \$5 to a top figure of \$22 for a ten-key machine. Just as much variety was found in each other type of machine. The calculators varied from a low of \$3 to a high of \$35 for electric calculators. The duplicating devices varied from \$9 to \$14 per year mostly for yearly cleaning. The dictating machines averaged \$7 per machine for maintenance. In only one case was a figure given for other machines such as the bookkeeping machine and this school paid from \$8 to \$10. In only one case did the

school have contracts for all the machines. Four schools had contracts for the electric calculators only. As with the typewriters in the larger school systems the maintenance costs for the machines was handled by the central office and figures were not available to the teachers.

In these larger schools the smallest number of teachers for the business department was 4 and the largest number of teachers was 9. All the teachers were full-time business teachers.

In comparing the large high schools with Eastern Illinois University a rather wide difference in maintenance costs is found. In the large high schools as has been stated before typewriter maintenance for standards varies from less than \$2 to \$10. At Eastern the standard typewriter maintenance is \$15 per machine. This maintenance consists of one call per week and a complete overhaul every year. In the case of the electric typewriters again Eastern pays a larger amount. At the large high schools less than \$15 was paid for electric typewriter maintenance. Eastern on the other hand paid \$15 for maintenance of the I. B. M. and \$37.50 for the Remington. Both these charges are on the basis of distance.

Eastern Illinois University also pays more than the average large school for machine service. The largest service charge for machines in the high schools was \$35 for a Marchant. Eastern pays \$41 for their Marchant. Eastern pays the least for the Burroughs Five-Column Calculator. The charge for this machine is \$9.80. The highest amount paid by Eastern for a calculator is \$99.60 for a Remington Printing Calculator. As far as the other machines are concerned, Eastern pays from \$14.70 for a Burroughs Full-Key to \$139 for a Burroughs Bank Machine. There is no comparable figure from the large high schools that have banking equipment. When the dictating equipment at Eastern needs work it is sent to St. Louis either by express or truck.

Eastern is of course large and has more business teachers than are found in the large high schools. It may also be true that Eastern has had its equipment longer than the high schools. It does seem though as if some charges paid by Eastern are high. However, Eastern is doing a good job of training the teachers that teach in the high schools of the state.

## CHAPTER III

## Conclusion

Results of the Survey

The results of this survey would seem to indicate that the larger the high school the more teachers and equipment there is available for teaching the students. In only the larger schools does there seem to be enough teachers and machine equipment available to teach adequately most phases of business. These large high schools seem to have two advantages. One is the fact that maintenance costs are less where there is a repair man in the city who does not have to travel far to make the service calls. The second advantage is the accessibility of jobs for those business students who will get no further business training. These students, being closer to work, can better take advantage of courses that permit them to go to school part time and work part time. These students also have a better opportunity to get training in a wider variety of machines.

The medium sized schools with less equipment and fewer teachers are not able to provide quite as many services for their students. They are apt to be farther from service centers and also to be more restricted when it comes to placing business graduates. These schools are

undoubtedly doing all they can to train business students to do a good job in the business world. These students with less equipment to work with probably do gain confidence in their own ability by learning to use well those machines that the schools have to offer.

The smaller schools have many handicaps. The teachers usually are loaded down with many subjects. They are hindered by lack of equipment. They too are the greatest distance from a maintenance center. Their graduates in the main must seek employment out of the town. They are to be commended for doing the type of work that they do.

It is probably true that even in the largest high school the business department works for the entire school. It is probably true that in most high schools the business department duplicates material for the rest of the school. This is both an advantage and a disadvantage. It is an advantage since the students gain experience in this type of work. It is a disadvantage in that it burdens the teachers with extra work.

The writer feels that the teachers in the various high schools are doing a fine job and that no recommendations are necessary. Each school system seems to be adding equipment as it becomes possible to do so. Each teacher has a double job, that of teaching the student as best he can, as well as not overburdening the taxpayer with demands for expensive equipment. These teachers are doing a good job and should be highly commended by all.

## APPENDIX

## SMALL SCHOOLS (0-299 ENROLLMENT)

Schools	Royal		Remington		Underwood		Smith-Corona		Olympia		IBM
	S	E	S	E	S	E	S	E	S	E	
Armstrong	10	4	0	0	3	0	0	0	0	0	0
ment	21	1	1	1	0	0	0	0	0	0	2
thany	18	0	4	0	0	0	0	0	0	0	1
mark	27	1	0	0	0	0	0	0	0	0	0
sher	11	2	0	0	5	0	0	0	0	0	0
peston	24	1	0	0	0	0	0	0	0	0	0
maica	15	0	1	1	7	0	2	0	0	0	1
nsas	0	0	0	0	7	1*	14	0	3	0	1*
kland	0	0	0	0	23	1	0	0	0	0	0
ssville	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>22</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>8</u>
tal	126	9	6	2	67	6	16	0	3	0	13

Machines rented

## SMALL SCHOOLS (0-299 ENROLLMENT)

Schools	Yearly Maintenance Costs				Machines
	Typewriters				
	Standard		Electric		
Armstrong	\$	0	\$	0	\$ 0
Bement		0		0	0 <sup>1</sup>
Bethany		110		0	15 <sup>2</sup>
Bismark		290		0	0 <sup>3</sup>
Fisher		0		0	0
Hoopeston		0		0	30, \$35 <sup>4</sup>
Jamaica		0		0	0
Kansas		168		0	0 <sup>5</sup>
Oakland		172.50		17	0 <sup>6</sup>
Rossville		260		50	0 <sup>7</sup>

1. No record as yet since there has been only one service call.
2. Manual calculator is the only one with an available figure.
3. No service calls as yet.
4. Service contract price for the Mimeograph.
5. Machines rented.
6. Machines rented when needed.
7. No contract or figures available.



## MEDIUM SIZED SCHOOLS (300-600 ENROLLMENT)

Schools	Royal		Remington		Underwood		Smith-Corona		Olympia	IBM
	S	E	S	E	S	E	S	E	S	E
Casey	36	1	0	0	0	0	0	0	0	0
Clinton	77	2	0	0	0	0	0	0	0	2
Lakeview	20	1	3	4	4	0	0	0	0	2
Marshall	15	0	1	4	15	0	0	0	5	0
Morton	24	4	2	1	0	0	0	0	1	10
Oakwood	15	0	0	0	0	0	0	0	0	15
Polong	21	0	0	0	16	0	0	0	0	2
Stantoul	39	1	0	0	5	1	0	0	0	3
Welbyville	16	0	5	0	8	0	7	0	0	3
Westville	<u>18</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>11</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	281	9	11	9	59	1	7	0	6	38

## MEDIUM SIZED SCHOOLS (300-600 ENROLLMENT)

## Yearly Maintenance Costs

Schools	Typewriters		Machines
	Standard	Electric	
Casey	\$270	\$ 10	\$ 5 <sup>1</sup>
Clinton	77	4	25 <sup>2</sup>
Lakeview	0	0	15
Marshall	40	0	0
Morton	0	0	85.80 <sup>3</sup>
Oakwood	40	225	0
Oblong	277	20	39.40 <sup>4</sup>
Rantoul	450	30	61.00 <sup>5</sup>
Shelbyville	5 <sup>6</sup>	0	0
Westville	348	0	15 <sup>7</sup>

1. This figure is the cost per year for each machine.
2. This figure is for cleaning duplicators, there are no other figures available.
3. This figure is a composite of all charges. The yearly cost of the full-key is \$18, the manual calculators \$12.10, the electric calculators \$35, and the bookkeeping machine \$20.70.
4. This figure is also a composite. The cost for the manual calculator is \$9.80, the bookkeeping machine cost is \$29.60.
5. This figure is a composite also. The ten-key and the dictating devices cost \$3 each, the Marchant costs \$35, and the duplicating devices cost \$20 per year.
6. This is the charge per trip.
7. This figure and that for Lakeview High School are the costs per machine. The yearly cost for each machine is the same.

## LARGE SCHOOLS (OVER 600 ENROLLMENT)

Schools	Royal		Remington		Underwood		Smith-Corona		Olympia	IBM
	S	E	S	E	S	E	S	E	S	E
oomington	51	9	0	0	0	0	0	0	6	12
ampaign	41	1	15	1	12	1	18	0	0	16
nville	50	1	4	0	44	0	3	0	1	1
ttoon	45	5	0	0	11	0	0	0	0	20
rmal	32	0	1	0	0	0	1	0	7	5
ney	68	0	0	0	0	0	0	0	0	2
ris	30	0	21	0	15	0	0	0	9	1
oria	40	1	4	0	0	0	19	4	0	2
ringfield	10	0	17	0	18	1	20	0	0	3
ephen catur	<u>17</u>	<u>23</u>	<u>10</u>	<u>2</u>	<u>5</u>	<u>3</u>	<u>5</u>	<u>2</u>	<u>0</u>	<u>2</u>
tal	384	40	72	3	105	5	66	6	23	64

## LARGE SCHOOLS (OVER 600 ENROLLMENT)

## Yearly Maintenance Costs

Schools	Typewriters		Machines
	Standard	Electric	
Bloomington	\$300	\$ 0	\$ 43 <sup>1</sup>
Champaign	150	50	114 <sup>2</sup>
Danville	408	20	0
Mattoon	412 <sup>3</sup>		80 <sup>4</sup>
Normal		25	50 <sup>5</sup>
Olney	408		20 <sup>6</sup>
Paris	525		37 <sup>7</sup>
Peoria	120	25	70 <sup>8</sup>
Springfield	100	12	69
Stephen Decatur	138.75	480	160 <sup>10</sup>

1. This is a composite figure; the electric calculators cost \$35 each for service, the mimeograph is cleaned for \$9.
2. The ten-key costs from 0 to \$12, the manual calculators average \$36, the electric calculators average \$36, the dictating machines \$10, and the duplicating devices \$20.
3. This includes both standard and electric typewriters.
4. This figure includes \$10 for the electric calculators and \$70 for the duplicating devices.
5. Only available figure is for the electric calculators.
6. Full-Key machine is the only one with contract for available figures.
7. The Monroe service is \$22 per year, and the Marchant is \$15. There are no other figures available.
8. The ten-key machine cost is \$5, full-key \$3-\$5, manual calculators \$5-\$10, electric calculators \$3-\$5, dictating machines \$20, and transcribing units \$30.
9. This is the cost per call.
10. Average of calls for machines, the cost is \$8-\$10 per machine.

Box 196  
Oakland, Illinois  
October 23, 1958

Dear

As partial fulfillment of the requirements for a Master's Degree at Eastern Illinois University, I am conducting a survey of the machines in the business departments of a number of high schools. Will you please answer the questions on the enclosed questionnaire? When the survey is completed, I would be glad to send you a copy if you will so indicate on the second page of the survey sheet.

May I have the questionnaire returned to me before November 21, 1958?

Thank you for your courtesy in answering these questions.

Sincerely yours,

Mrs. Marion G. McLean

Enclosures

## MACHINES SURVEY

1. How many standard typewriters do you have?

No.

\_\_\_\_\_ Royal  
 \_\_\_\_\_ Remington  
 \_\_\_\_\_ Underwood  
 \_\_\_\_\_ Smith Corona  
 \_\_\_\_\_ Olympia  
 \_\_\_\_\_ Other \_\_\_\_\_

2. How many electric typewriters do you have?

No.

\_\_\_\_\_ Royal  
 \_\_\_\_\_ Remington  
 \_\_\_\_\_ Underwood  
 \_\_\_\_\_ Smith Corona  
 \_\_\_\_\_ Olympia  
 \_\_\_\_\_ I.B.M.  
 \_\_\_\_\_ Other \_\_\_\_\_

3. Do you have a service contract for typewriter maintenance?  
 Yes \_\_\_\_\_ No \_\_\_\_\_

If so how much is it per year?

Standards \_\_\_\_\_  
 Electrics \_\_\_\_\_

4. If some other maintenance plan is used what is the approximate cost per year?

Standards \_\_\_\_\_  
 Electrics \_\_\_\_\_

5. How often do you trade in your standard typewriters?

1 2 3 4 5 or more years

6. How often do you trade in your electric typewriters?

1 2 3 4 5 or more years

7. Do you prefer only one make of standard typewriter?

Yes \_\_\_\_\_ No \_\_\_\_\_ What kind? \_\_\_\_\_

If not, do you prefer to have several different makes of typewriters in your classroom? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you buy through bids? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you buy from company salesmen? Yes \_\_\_\_\_ No \_\_\_\_\_

8. Do you prefer only one make of electric typewriter?

Yes \_\_\_\_\_ No \_\_\_\_\_ What kind? \_\_\_\_\_

8. If not, do you prefer to have several different makes of electric typewriters in your classroom? Yes \_\_\_\_\_ No \_\_\_\_\_  
What kinds? \_\_\_\_\_

Do you buy electrics through bids? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you buy from company salesmen? Yes \_\_\_\_\_ No \_\_\_\_\_

9. What office machines other than typewriters do you have?  
How many?

Adding Machines, Ten-Key \_\_\_\_\_, Full-Key \_\_\_\_\_  
Calculators, Manual \_\_\_\_\_, Electric \_\_\_\_\_  
Dictating Machines \_\_\_\_\_  
Duplicating Devices \_\_\_\_\_  
Other \_\_\_\_\_

10. A. Do you have a service contract for the machines?

Adding Machines, Ten-Key \_\_\_\_\_, Full-Key \_\_\_\_\_  
Calculators, Manual \_\_\_\_\_, Electric \_\_\_\_\_  
Dictating Machines \_\_\_\_\_  
Duplicating Devices \_\_\_\_\_  
Other \_\_\_\_\_

B. If so, what is the yearly service cost per machine?

Adding Machines, Ten-Key \_\_\_\_\_, Full-Key \_\_\_\_\_  
Calculators, Manual \_\_\_\_\_, Electric \_\_\_\_\_  
Dictating Machines \_\_\_\_\_  
Duplicating Devices \_\_\_\_\_  
Other \_\_\_\_\_

11. What is the approximate yearly average if the service is paid by the call?

Adding Machines, Ten-Key \_\_\_\_\_, Full-Key \_\_\_\_\_  
Calculators, Manual \_\_\_\_\_, Electric \_\_\_\_\_  
Dictating Machines \_\_\_\_\_  
Duplicating Devices \_\_\_\_\_  
Other \_\_\_\_\_

12. Do you prefer a certain make of office machine? Yes \_\_\_\_\_ No \_\_\_\_\_

If not, do you have a variety of makes? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you buy the machines through bids? Yes \_\_\_\_\_ No \_\_\_\_\_

Do you buy from company salesmen? Yes \_\_\_\_\_ No \_\_\_\_\_

13. Do you have a definite policy for trading in these machines?  
Yes \_\_\_\_\_ No \_\_\_\_\_

14. How many teachers are there in the business department? \_\_\_\_\_